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Reconnaissance Report

for

Humboldt National Forest
Ely Ranger District

North-South Schell Peaks
Potential Research Natural Area

Report prepared for:

Intermountain Research Station
USDA, Forest Service
324 25th Street
Ogden, Utah 84401

Report prepared by:

Jan Nachlinger
The Nature Conservancy
Nevada Public Lands Program
133 N. Sierra Street, Suite 204
Reno, Nevada 89501

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Reconnaissance Report
Summary Page

Area Name: North-South Schell Peaks

National Forest: Humboldt ***Ranger District***: Ely

Quadrangles: North Schell Peaks and South Schell Peaks, 7.5 minute series

General Location: About 27 km (17 mi) northeast of Ely in the northern half of the Schell Creek Range, southeastern White Pine County, Nevada.

Size: 2,950 acres ***Physiographic Region***: Great Basin

Major Cells Present:

Treelimit: Isolated individuals of *Picea engelmannii*;
Alpine dry steppe: *Carex elynoides* and others;
Alpine moist meadow: *Potentilla diversifolia* and others;
Alpine shrubland: *Potentilla fruticosa*;
Alpine talus and scree: *Draba densifolia* and others.

Additional Features:

Alpine geomorphic features, such as ridgeline, cirque basins, and scree slopes. Spectacular vistas and other scenic values.

Recommendation:

The North-South Schell Peaks area would make an excellent contribution to the RNA system because it holds exemplary alpine targets in near-pristine condition. I recommend that the INT/R4 RNA Committee formally nominate the North-South Schell Peaks candidate RNA to the Regional Forester, and plan for the completion of an Establishment Record. I further recommend that this reconnaissance report be made available to the Humboldt National Forest to help complete the required environmental assessment.

Prepared by: Jan Nachlinger

Date: 31 May 1991

North-South Schell Peaks
Ely District
Humboldt National Forest

Introduction

The *Regional Guide for the Intermountain Region* states that Research Natural Areas (RNAs) are to be established as part of the national system of RNAs to promote and protect biological diversity (U.S. Department of Agriculture, 1984). The national RNA system will eventually include representative and unique examples of forest, shrubland, grassland, alpine, aquatic, and geologic targets that have special characteristics of scientific interest and importance. A workshop held in 1982 and directed at identifying RNA needs in Nevada and Utah indicated that the Great Basin Province was lacking representation of alpine lands (Van Pelt, 1982). The alpine crest area from North Schell Peak to South Schell Peak was identified in the workshop's resulting document as one of several areas of known importance for its alpine ecosystems.

The purpose of this reconnaissance-level survey was to evaluate the quality of the North-South Schell Peaks area as a potential RNA to represent alpine terrestrial communities and geologic features. Presence of the target communities in sound condition was the essential consideration, but other basic qualifying criteria, such as minimum size (> 300 ac) and relative lack of human-caused disturbances, were evaluated. The quality of the plant communities along the Schell Peaks crest area was considered in light of other alpine areas to determine whether this area was the best choice for representation of the alpine target cells of interest. The most suitable boundary for an RNA was appraised on site primarily by taking ecological needs into consideration, however, management concerns were kept in mind as well.

The Ely Ranger District Office was visited on 23 and 27 July 1990 to meet with staff and discuss land status, uses, and current management of the Cleve Creek Baldy area (Paul Demeule, Jeff Jones, Toby Rhue, Rita Suminski, and Wayne Swensen, personal communications). When potential conflicts with a RNA designation for the area surfaced, possible solutions were discussed. The field reconnaissance survey of the North-South Schell Peaks area was conducted on 24 July by myself and volunteer, Michael Yost.

General Description

The Schell Creek Range is a classic Great Basin range–a long and narrow mountain chain with a high profile and rugged topography resulting from movement along north-trending faults (McLane, 1978). It lies within the eastern part of the Great Basin section

of the Basin and Range physiographic province (Fenneman, 1931). The high point of the range is North Schell Peak at 3,622 m (11,883 ft) in elevation in the northern half of the chain. South Schell Peak lies 8.5 km (5.3 mi) to the south of North Schell Peak. The long ridgeline between the two peaks is a fine example of Great Basin alpine landscapes (Photos 1 and 2).

The Schell Creek Range is composed of folded and faulted blocks of igneous, metamorphic, and sedimentary rocks. Limestone is the dominant rock type.

The vegetation of the North-South Schell Peaks area is comprised of alpine shrubland, grassland, and "barren" communities. Stunted individuals of *Picea engelmannii* are present at treelimit, but they do not constitute a subalpine community in themselves. The area is floristically classified within the Calcareous Mountains section of the Great Basin division of the Intermountain region (Cronquist *et al.*, 1972). Floristically, it is more similar to the Rocky Mountains region than to other sections of the Great Basin division.

Location and Access

The North-South Schell Peaks area is in White Pine County about 27 km (19 mi) northeast of Ely in the north half of the Schell Creek Range (Maps 1 and 2). The alpine area lies about 16 km (10 mi) east of McGill located along U.S. Highway 93. The legal description of its location is Townships 17 and 18 North, Ranges 65 and 66 East, unsurveyed sections, Mount Diablo Meridian. North Schell Peak is latitude 39° 24' 50" North, longitude 114° 36' 00" West, while South Schell Peak is latitude 39° 20' 10" North, longitude 114° 35' 50" West. Useful maps for the area include U.S. Forest Service Ely Ranger District (1/2 in/mi scale), U.S. Geological Survey 15 minute series Schell Peaks and Conners Pass, and U.S.G.S. 7.5 minute series North Schell Peak and South Schell Peak.

Access is easiest from the west on forest roads and trails, and eventually cross-country travel. A two-wheel-drive vehicle is sufficient. Access from the east is possible as both McCoy and Taft creeks have forest roads and trails, but this approach was not explored.

To approach the northern part from the west side, drive north from Ely on U.S. Highways 93 & alternate 50 about 28 km (17.5 mi) to Duck Creek Road (Forest Route FH23). Turn east and drive about 13 km (8 mi) eventually swinging south. Turn east on Forest Route 425 along Timber Creek and continue past the campground about 8 km (5 mi) to the roadend. Take the hike along the trail about 2 km (1 mi) to a saddle area which accesses the alpine ridgeline near North Schell Peak.

To approach the southern part from the west side, drive to the Duck Creek Road as above, but drive on Forest Route FH23 for about 16 km (10 mi). Turn east on Forest

Route 424 along Berry Creek and continue past a campground also about 8 km (5 mi) to the roadend. Hike up Forest Trail 072 about 5 km (3 mi) and ascend to the alpine ridgeline near South Schell Peak.

Land Status

The area lies completely within lands administered by the Ely Ranger District of the Humboldt National Forest. There are no cabins, trails, administrative sites, utility corridors, roads, communication sites or in-holdings within the immediate North-South Schell Peaks area.

There are no mining claims within the North-South Schell Peaks area, but there is a block of claims just west of the area in Ostergard Canyon. It was unclear whether these claims were valid. The alpine ridgeline has low potential for mineral and energy development. The status of oil and gas leasing was not researched for this report. In sum, no conflicts with mineral and energy interests are foreseen.

There are several grazing allotments in the North-South Schell Peaks area. To the west of the ridgeline is the Timber Creek cattle allotment presently permitted for 417 head from 16 June through 30 September with a deferred rotation schedule. There is also the Berry Creek cattle and sheep allotment permitted for 15 cattle from 1 June through 10 October and 1150 sheep from 26 June through 25 September. There are two allotments east of the ridgeline as well. The Taft Creek cattle allotment has 140 head and the McCoy Creek sheep allotment has 991 head permitted for 16 June through 15 October. North of North Schell Peak is the Piermont Creek sheep allotment, but it has been in non-use ten of the last 13 years. The livestock are known to graze up to about 3,050 m (10,000 ft). Rugged terrain above this elevation limits use and little evidence of past grazing by domestic livestock was observed during the ridgeline visit. Forage production is very low in the alpine areas. In light of this situation, no conflict from grazing interests are anticipated.

Recreational use in the North-South Schell Peaks area is very light and primarily restricted to hiking and hunting activities. Trail use along the access trail was very light and there were few entries in the journal on North Schell Peak for the last six years. The Schell Creek Range has deer and elk, and they are hunted, but this activity concentrates in wooded areas at lower elevation. No evidence of hunting camps were seen in the area. No conflicts with recreational activities or wildlife values are expected.

Primary Features

The North-South Schell Peaks area harbors several outstanding alpine plant

communities in good condition. The following descriptions are tentative because they are based on one short field visit and meager plant collecting for purposes of identifying the dominants.

Alpine plant communities include dry steppe, moist meadow (fell-field), shrubland, and talus and scree (alpine barren) types. These communities form a mozaic of alpine vegetation types along the ridgeline as a result of varying substrate and topographic situations, which exert control over the amounts of moisture, rockiness, and exposure to wind (Billings, 1978 and 1988).

In protected to exposed topographic positions where soil moisture is relatively low, an alpine dry steppe community is present. The community is dominated by *Carex elynoides, Festuca brachyphylla, Poa cusickii*, and other graminoids. The substrate is gravelly and total plant cover is low with less than 25 percent cover (Photo 3).

In contrast, on protected to exposed sites where the soil moisture is relatively high, for example, near late-lying snowbanks, an alpine meadow community is present. Dense patches of *Potentilla diversifolia* or *Potentilla concinna* occur here with various grasses and sedges (Photo 4).

On rocky sites that offer some protection from wind, a low-growing shrubland of *Potentilla fruticosa* is found. The shrubs are very scattered with talus and alpine cespitose perennials found among the woody cinquefoils (Photo 5).

The most exposed, driest, and rockiest slopes are occupied by an alpine talus and scree community. Rock may account for up to 99 percent of the cover, while total plant cover rarely exceeds five percent. Classic alpine species occur in this barren community: *Polemonium viscosum, Silene acaulis, Poa rupicola, Castilleja nana, Draba densifolia,* and *Smelowskia calycina* (Photos 1, 2, and 5).

A few protected pockets occur along the ridgeline. Here, at treelimit, scattered individuals or small clumps of *Picea engelmannii* are found. The individual trees are stunted, flagged, and skirted (Photo 6). Further downslope, in subalpine settings, the trees become taller and form open stands. However, these areas are not included within the recommended boundary for the RNA (Photos 7 and 8).

No federally listed or candidate species for threatened or endangered status are known to occur within the North-South Schell Peaks area (Nevada Natural Heritage Program, personal communication). However, three rare species that are now known to be more common than once believed are present: *Draba sphaeroides* var. *cusickii, Draba pennellii,* and *Lesquerella hitchcockii.*

Size and Boundary

A recommended ecological boundary for the proposed North-South Schell Peaks Research Natural Area is given in Map 2. This boundary primarily follows the 3,300 m (10,825 ft) contour line that encloses the alpine communities of the uppermost Schell Creek Range ridgeline area. The gentle to steeply-sloping upper slopes define the highest reaches of numerous creeks draining west into the Duck Creek watershed, and east into the groundwater system feeding the numerous springs of Spring Valley. Any subsequent legal boundary used to more conveniently describe and manage this area should encompass the entire recommended ecological boundary.

The size of the recommended area is approximately 1,200 ha (2,950 ac). This is a relatively large area for an RNA, however, it is not expecially diverse for the size because of the alpine nature of the area.

Suitability for Research Natural Area Candidacy

The North-South Schell Peaks area would make an outstanding RNA for alpine target cells. The ridgeline between the two peaks harbors several alpine plant communities in excellent condition which are in need of receiving representation in the RNA network. The unique setting with primarily limestone substrates has resulted in plant communities that are floristically different from other Great Basin alpine communities already represented in the network, such as in the Mount Jefferson RNA in the Toquima Range.

The area meets the minimum size requirement and is in near-pristine condition with no evidence of human-caused disturbances. The area is remote, and although arduous to access, it would be ideal for alpine research activities in need of isolation and its pristine nature.

There are essentially no conflicts with other uses in the area. Recreational use is very light. Mineral potential is low and forage production is insignificant because of the elevation. Wildlife is not abundant, and RNA designation would be compatible with its management. Commercial timber is non-existent. Finally, district-level staff were supportive of the special designation and voiced no management concerns.

Recommendations

The North-South Schell Peaks area is highly qualified for the RNA designation. Consequently, I recommend that the Intermountain Station/Region 4 RNA Committee formally nominate the North-South Schell Peaks candidate Research Natural Area to the Regional Forester.

In addition, the INT/R4 RNA Committee should plan for the timely completion of an establishment record for the candidate RNA. Field work done for the establishment record should be an in-depth survey to more fully describe and classify the plant communities present. This field work should also determine if any federally listed or candidate species for threatened or endangered status occur within the area.

Finally, I recommend that this reconnaissance report be made available to the Ely Ranger District so that they may use its contents to complete an environmental assessment of the RNA designation action. This is a necessary step to comply with the National Environmental Policy Act and timely action now will prevent delays in the establishment process later.

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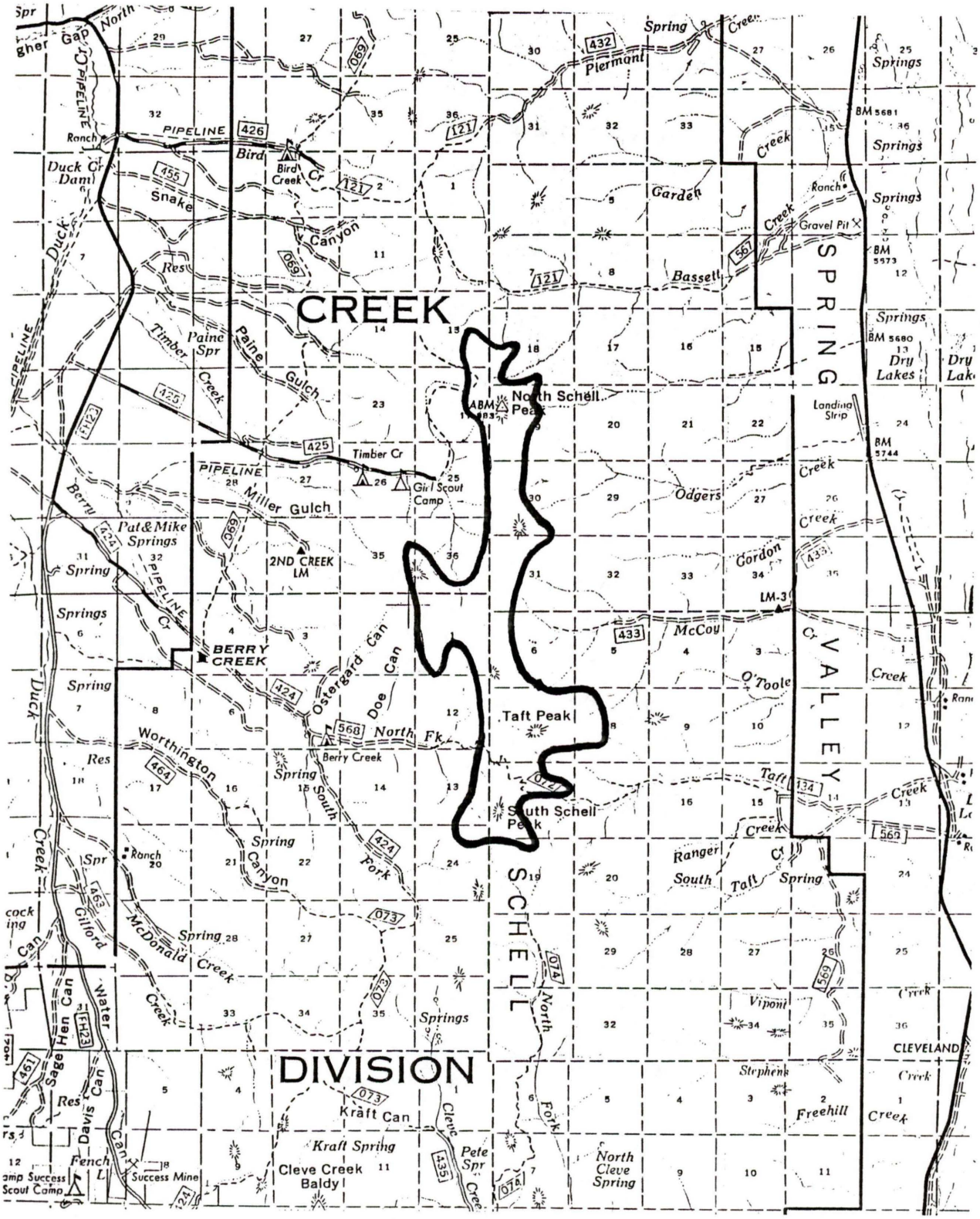
CREEK
SPRING VALLEY
SCHELL
DIVISION
North Schell Peak
South Schell Peak
Taft Peak
BERRY CREEK
2ND CREEK LM
LM-3
Girl Scout Camp
Timber Cr
Miller Gulch
Paine Gulch
Timber Creek
Pat&Mike Springs
Ostergard Can
Doe Can
North Fk
Berry Creek
Worthington Spring
South Fork
Spring Canyon
McDonald Creek
Gilford Creek
Water Creek
Sage Hen Can
Davis Can
Kraft Can
Kraft Spring
Cleve Creek
Baldy
Success Mine
Fench L
Camp Success Scout Camp
Duck Cr Dam
Bird Creek
Snake Canyon
Pipeline
Ranch
Gravel Pit
Landing Strip
Dry Lakes
Springs
Garden
Bassett
Odgers
Gordon
McCoy
O'Toole
Ranger
Taft
Vipont
Stephens
Freehill
Cleveland
North Cleve Spring
Pete Spr
Cleve Creek
Fork
Creek
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BM 5573
Plermont
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Duck
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Gilford
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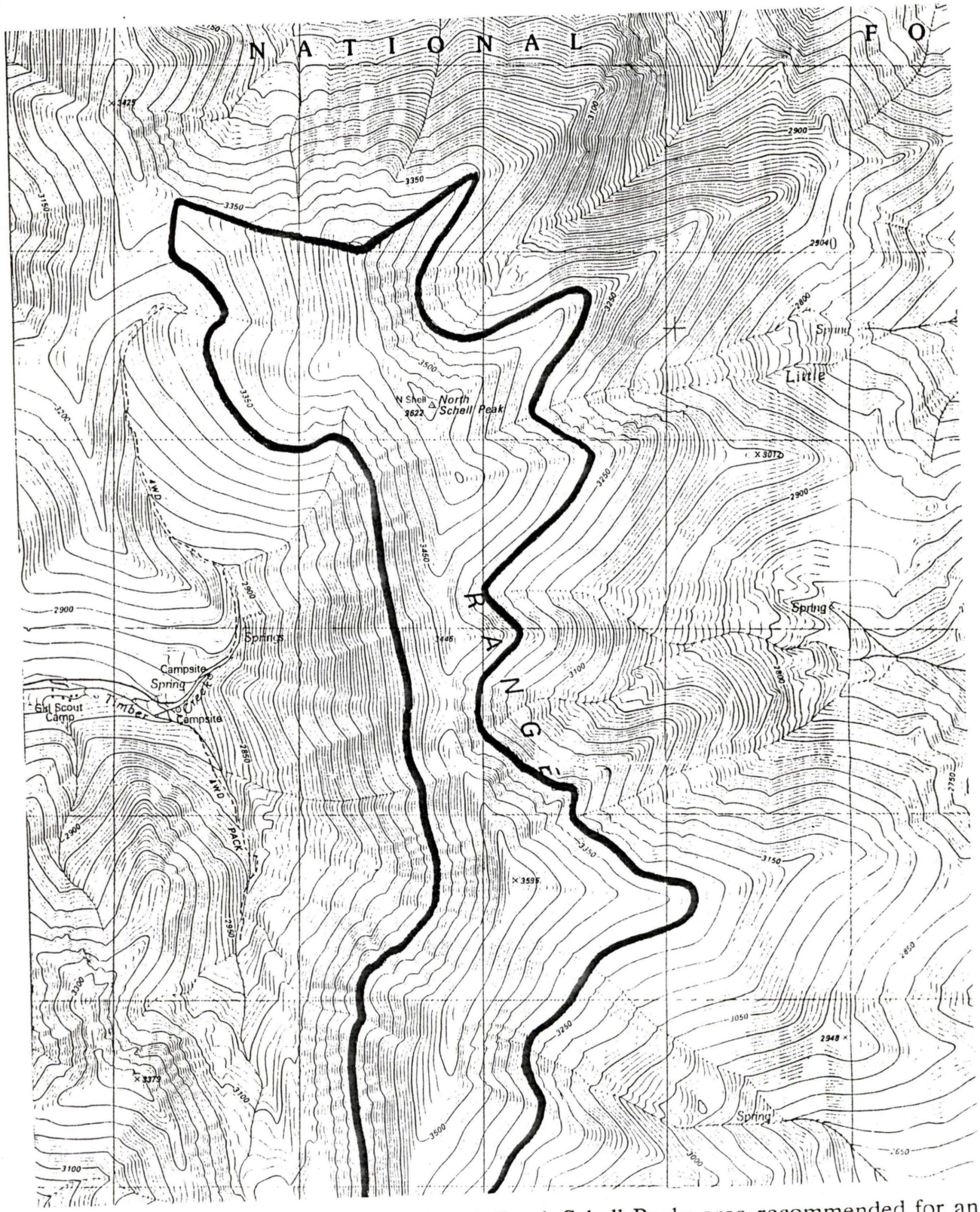
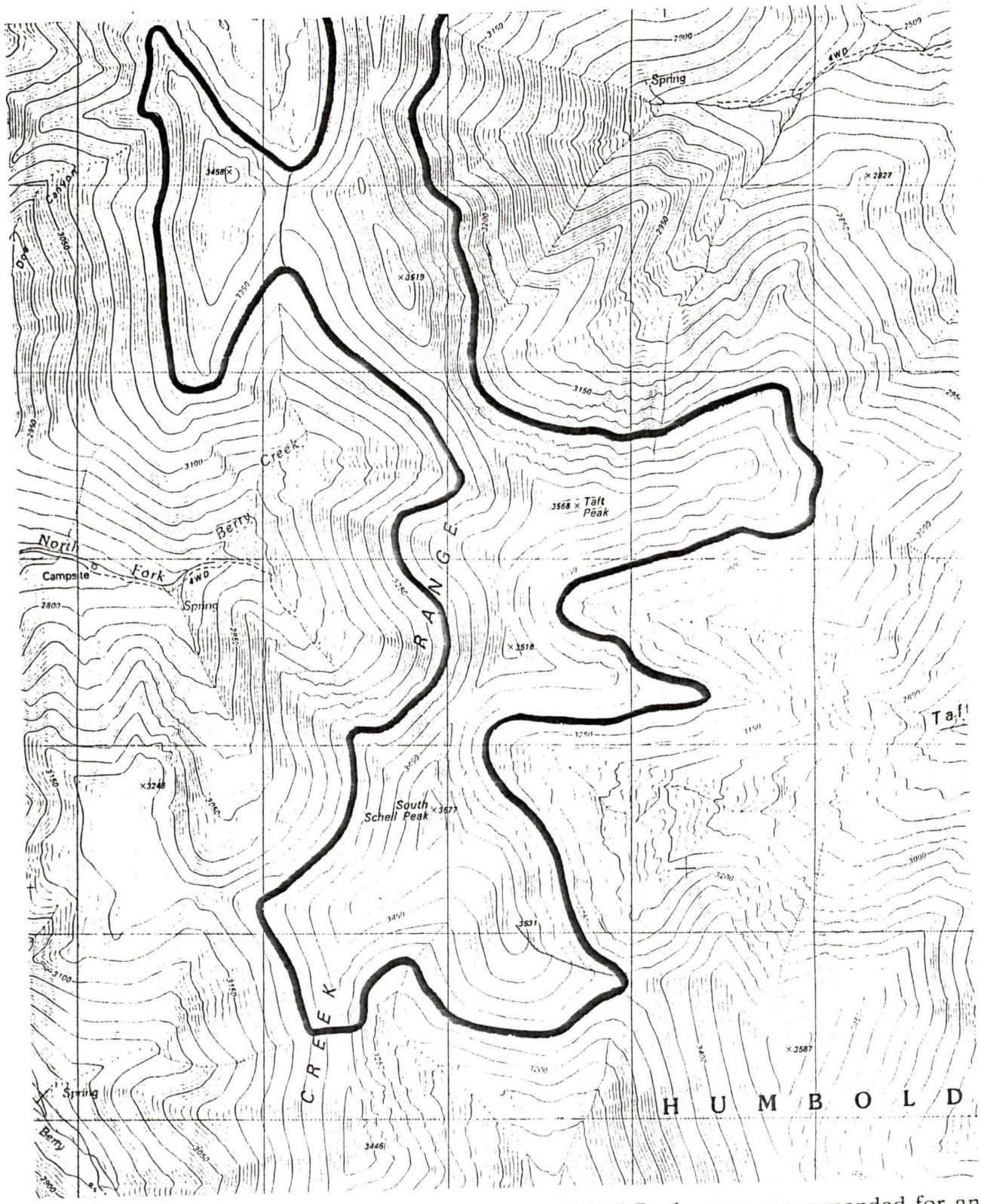


Map 2a. Proposed boundary of the North-South Schell Peaks area recommended for an alpine Research Natural Area (USGS 1:24,000 North Schell Peak reduced 78 percent). See map 2b for continuation of area.



Map 2b. Proposed boundary of the North-South Schell Peaks area recommended for an alpine Research Natural Area (USGS 1:24,000 South Schell Peak reduced 78 percent). Map is continuous with Map 2a.

Photo 1. View S from North Schell Peak with the alpine crest running left of center and the upper forested slopes of Timber Creek on the right. South Schell Peak is in the center 8 km (5 mi) distant.

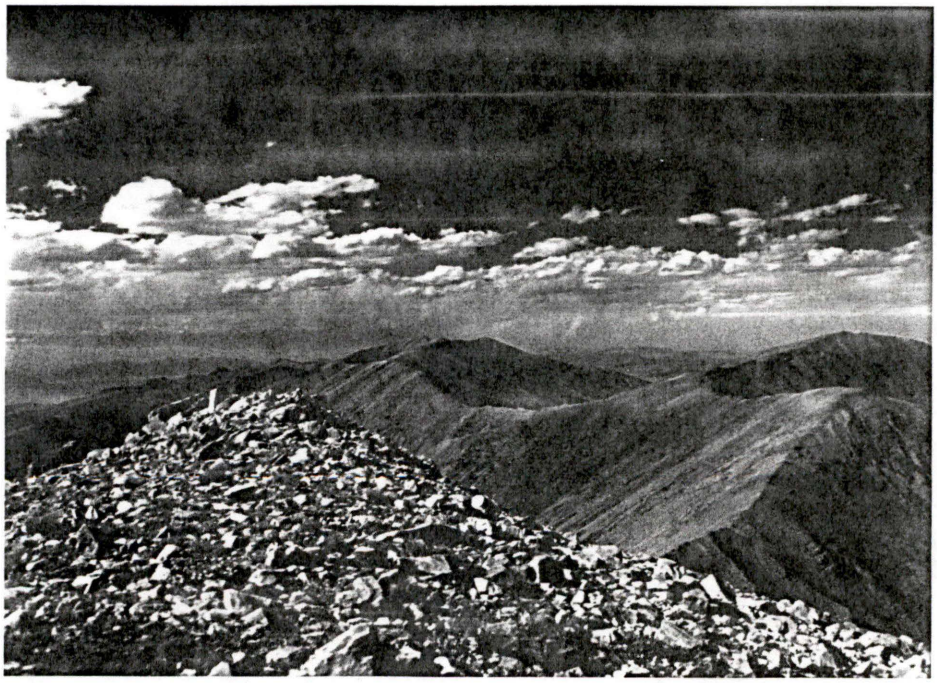


Photo 2. View N from South Schell Peak with the alpine crest running to the right and then center. Taft Peak is in mid-ground on the right. North Schell Peak is in the center 8 km (5 mi) distant.

Photo 3. A dry alpine steppe community on the west-facing slope of Taft Peak at about 3,470 m (11,385 ft). The steppe is dominated by *Carex elynoides*, and the dark patches are *Potentilla diversifolia*.

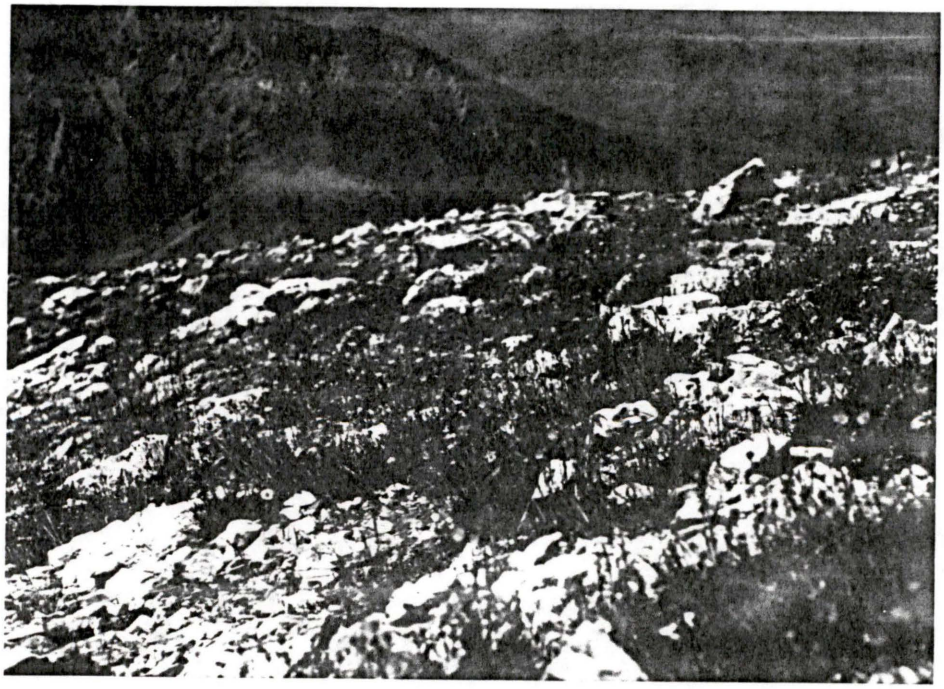


Photo 4. Close-up view of an alpine meadow on a partially protected slope of North Schell Peak. The meadow is dominated by *Potentilla diversifolia*.

Photo 5. The ridgeline above McCoy Creek at about 3,500 m (11,485 ft) has a rock structure of some age since mature shrubs of *Potentilla fruticosa* grow on it. Behind the rock structure is a sparsely-covered community dominated by the shrubby cinquefoil.

Photo 6. Treelimit occurs below the ridgeline at about 3,500 m (11,485 ft) near Peak 3519. Here, *Picea engelmanii* assume a prostrate and flagged habit.

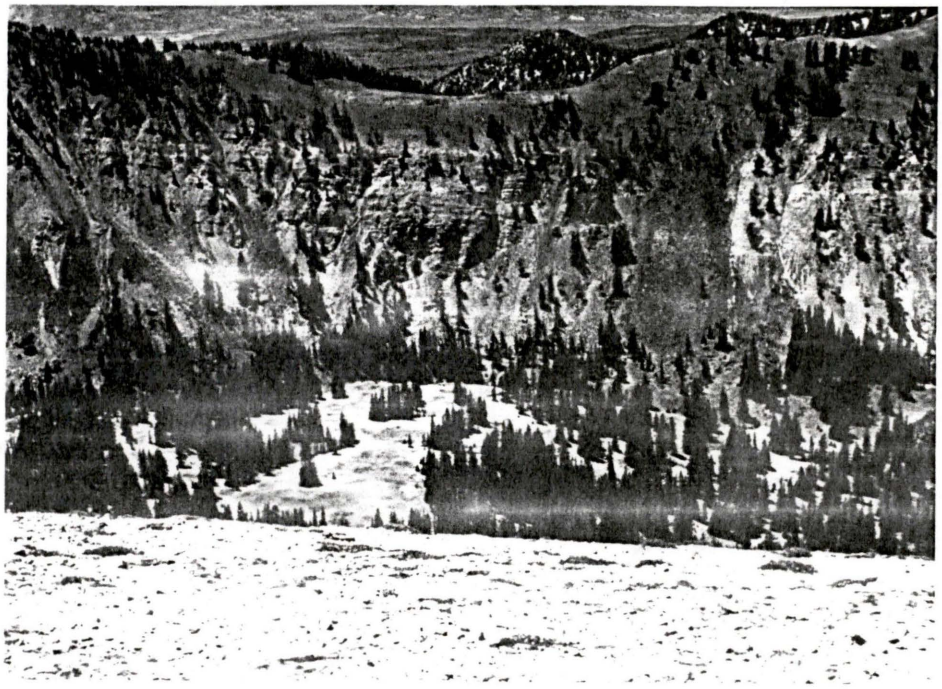


Photo 7. View W from the ridgeline into the subalpine slopes of Timber Creek. At 3,175 m (10,400 ft) the Engelmann spruce occur in open stands and assume an upright tree form.

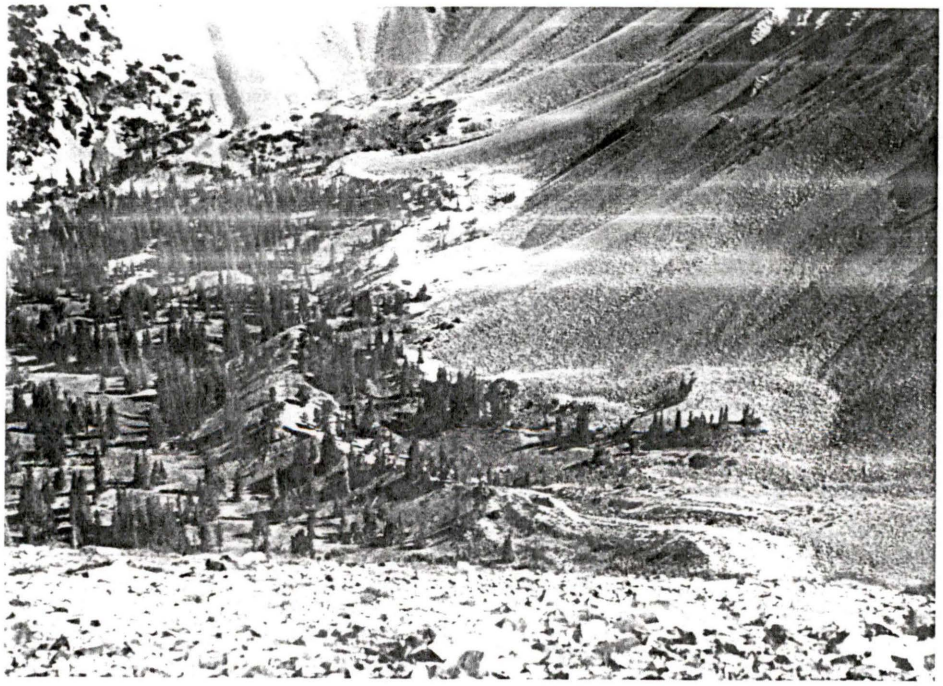


Photo 8. View E from the ridgeline into the subalpine slopes of Taft Creek. Here, mature stands of Engelmann spruce occur on morainal deposits up to 3,200 m (10,500 ft).